

REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 16-28 are presently pending in this application, Claims 16, 19 and 23 having been amended, and Claims 26-28 having been newly added by the present amendment.

In the outstanding Office Action, Claims 16 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Makino (U.S. Patent 4,160,897) in view of Yoshimoto et al. (U.S. Patent 5,874,710); Claim 17 was rejected under 35 U.S.C. 103(a) as being unpatentable over Makino in view of Yoshimoto et al., and further in view of JP4-249090 (hereinafter “JP ‘090”); and Claim 19 was rejected under 35 U.S.C. 103(a) as being unpatentable over Makino in view of Yoshimoto et al., and further in view of Caddock (U.S. Patent 4,670,734). However, Claims 20-25 were indicated as including allowable subject matter.

First, Applicants acknowledge with appreciation the indication that Claims 20-25 include allowable subject matter. However, Claims 20-25 are presently maintained in dependent form, because Applicants believe that Claim 16 as currently amended includes allowable subject matter.

Claims 9 and 23 have been amended herein. These amendments are believed to be merely cosmetic and thus are not believed to narrow the scopes of the claims.

Claim 16 has been also amended, and this claim amendment is believed to find clear support in the claims, specification and drawings as originally filed.¹

Newly added Claims 26-28 are believed to be supported by the original disclosure of the present application. For example, Claims 26 and 27 are believed to be supported by the specification, page 17, lines 6-8, and Claim 28 by page 14, lines 6-20.

¹ For example, specification, page 20, lines 17-24.

Thus, no new matter is believed to be added by way of the amendments and additions in the claims.

Before addressing the outstanding art rejections, a brief summary of Claim 16 as currently amended is believed to be helpful. According to amended Claim 16, a process for producing a ceramic heater includes forming a resistance heating element on a surface of a ceramic substrate, dividing the resistance heating element into plural sections, measuring a resistivity of each of the plural sections, and trimming the resistance heating element so as to adjust the resistivity of each of the plural sections to a desired value. By trimming as such, the resistivity is more accurately adjusted in each of the plural sections of the resistance heating element, thereby achieving a ceramic heater that allows more precise heat control on its surface, for example, for a semiconductor production and examination.²

Yoshimoto et al. discloses a fixing apparatus. However, Yoshimoto et al. does not teach “measuring a resistivity of each of said plural sections, and trimming the resistance heating element so as to adjust the resistivity of each of said plural sections to a desired value” as recited in amended Claim 16. On the other hand, Yoshimoto et al. merely discloses a fixing apparatus including a heater 2 having a heat generating resistor 22 and a thermistor 24. The heat generating resistor 22 is provided with a groove 22a, and the resistance value of the heat generating resistor 22 can be controlled by the amount of the groove 22a.³ Also, the thermistor 24 detects a temperature increase of the heater 2, and the voltage supplied to the heat generating resistor 22 is varied so as to adjust the temperature of the heater 2 to a predetermined fixing temperature.⁴ However, in the Yoshimoto et al. device, the thermistor 24 only detects the overall temperature of the heater 2, not the temperatures at different portions of the heater 2. It

² Specification, page 15, lines 14-22.

³ Yoshimoto et al., column 4, lines 20-40.

⁴ Id., column 3, lines 10-23.

is therefore not required in the Yoshimoto et al. device to measure the resistivity of each of plural sections of the resistance heating element, and only the *overall* resistance value of the heat generating resistor 22 is measured and adjusted to a certain value so as to reduce the variance in the resistance values among different heat generating resistors 22 as stated in column 4, lines 33-40. Therefore, the process recited in Claim 16 is clearly distinguishable from Yoshimoto et al.

Makino discloses a ceramic heating element. Nevertheless, Makino fails to teach the measuring and trimming as recited in amended Claim 16. On the other hand, Makino simply discloses a ceramic heating element having a resistor circuit, and the resistivity of the heating element is adjusted by forming or cutting a short circuit.⁵ Therefore, the process recited in Claim 16 is clearly distinguishable from Makino.

JP '090 and Caddock disclose a heat emitting element and a film-type resistor, respectively. However, neither JP '090 nor Caddock discloses the measuring and trimming as recited in amended Claim 16. Specifically, JP '090 only discloses a heat emitting element having a resistance pattern 2 having a thickness varied depending on the position,⁶ and Caddock simply discloses a resistor having a zigzag pattern formed by removing portions of a resistor material.⁷ Therefore, the process recited in Claim 16 is clearly distinguishable from JP '090 and Caddock.

Because none of Yoshimoto et al., Makino, JP '090 and Caddock discloses the measuring and trimming as recited in Claim 16, even the combined teachings of these cited references are not believed to render the process recited in Claim 16 obvious.

For the foregoing reasons, Claim 16 is believed to be allowable. Furthermore, since

⁵ Makino, column 3, line 57, to column 4, line 9.

⁶ JP '090, Abstract.

⁷ Caddock, Abstract.

Claims 17-28 depend from Claim 16, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 17-28 are believed to be allowable as well.

In light of the prior indication of allowable subject matter and in view of the amendments and discussions presented above, no further issues are believed to be outstanding, and thus the present application is believed to be in condition for allowance. Therefore, Applicants respectfully request an early and favorable action to that effect.

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